

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 31 MAR 2005

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/013357

International filing date (day/month/year)
25.11.2004

Priority date (day/month/year)
05.12.2003

International Patent Classification (IPC) or both national classification and IPC
D21H21/34

Applicant
CIBA SPEZIALITÄTENCHEMIE PFERSEE GMBH

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
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International application No.
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V.

1.1 Reference is made to the following documents:

- D1 : EP 0 542 071 A (WOLMAN GMBH DR) 19 May 1993 (1993-05-19)
- D2 : EP 0 599 812 A (CHISSO CORP) 1 June 1994 (1994-06-01)
- D3 : EP 0 401 538 A (CHISSO CORP) 12 December 1990 (1990-12-12)
- D4 : WO 00/29490 A (HUHN WOLFGANG ; RATHENOW JOERG (DE); COLLOID SURFACE TECHNOLOGIES G (D) 25 May 2000 (2000-05-25)
- D5 : EP 0 451 665 A (ALBRIGHT &; WILSON) 16 October 1991 (1991-10-16)
- D6 : US 2 632 743 A (ECKERT LEWIS W) 24 March 1953 (1953-03-24)
- D7 : GB 1 450 446 A (UNITED MERCHANTS &; MFG) 22 September 1976 (1976-09-22)

1.2 The present invention pertains to a process for the flame retardant treatment of a fibre product which contains from 20 to 100 % by weight of cellulose fibres based on the weight of the anhydrous fibre product, wherein the cellulose product is treated in succession or simultaneously with a branched polyethyleneimine and a phosphonic acid as defined in the present claim 1.

It is known from D3 to use polyethyleneimine compounds to obtain flame retardant properties of a fibrous product and D2 discloses the use of phosphonic acids for obtaining the same effect. However, these document, or any other available documents, do not disclose the combination of these two compounds to obtain the desired properties. Further, it cannot either be considered to be an obvious modification, to combine the above mentioned compositions from D2 and D3, since such a combination is not taught anywhere. Thus, the subject-matter of the present claim 1, as well as the rest of the dependent claims 2 to 9, are novel and inventive in the light of the cited documents (Art.33.2 and 33.3 PCT).

Re Item VIII.

3.1 According to the wording of the present claim 1 the treatment should be carried out on fibre products which contains from 20 to 100% by weight of cellulose fibres. As becomes clear from the description, the defined treatment refers to fibrous products like,

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i.e. the the defined process is not suitable to be used on, e.g. textiles, although this is not excluded by the wording of the present claim 1. The wording of the present claim 1 should be correspondingly clarified (Art.6 PCT).

3.2 The present claim 5 does not seem to be clearly defined, due to the wording "component A and/or component B". The combination of component A + B does not cause any problem. However, it is presently not clear how the "or" should be interpreted (Art.6 PCT).